

# BUFF & BUFF MFG. CO.

## Manufacturers of Surveying Instruments

NEW YORK OFFICE  
Hudson Terminal, 50 Church Street

Jamaica Plain Station  
BOSTON, MASS.

CHICAGO OFFICE  
231 North Fifth Avenue

### Products.

"Buff" SURVEYING INSTRUMENTS: TRANSITS and LEVELS.

Also, Theodolites, Tripods, Levelling Rods, Plumb-bobs, Plummet Lamps, Steel Tapes, Range Poles, Marking Pins and Current Meters.

### Repairs to Instruments.

"Buff" transits, solidly built to resist blows and falls, have metal generously distributed throughout the construction. At the Jamaica Plain Shops, all makes are repaired with economy and despatch.

Injured parts of instruments are duplicated from stock in hand. Parts to be repaired should be pointed out in detail. Telegraph orders can be completed in 24 hours.

### Directions for Ordering.

Order (especially triangulation transits) as long beforehand as possible, to insure careful construction if not in stock. State plainly style, size, kind of finish, price, shipping directions, name of express company, etc.

### Terms.

Prices quoted herewith are net cash, c. o. d. orders, with privilege of examination.

### Catalogues.

Complete catalogue sent on request, also copy of adjustment book sent gratis.

### References.

This company are Instrument Makers to the United States Government, many departments; New York Central R. R.; New York, New Haven & Hartford R. R.; New York Water Board; Public Service Commission and Board of Public Works, New York City; Standard Oil Co., Guggenheim and Rothschild interests, J. G. White Co., and numberless other engineering organizations.

The Pennsylvania R. R. used "Buff" instruments in large numbers in both their North River and East River tunnels. The Subway Commission of New York are now using 150 "Buff" instruments.

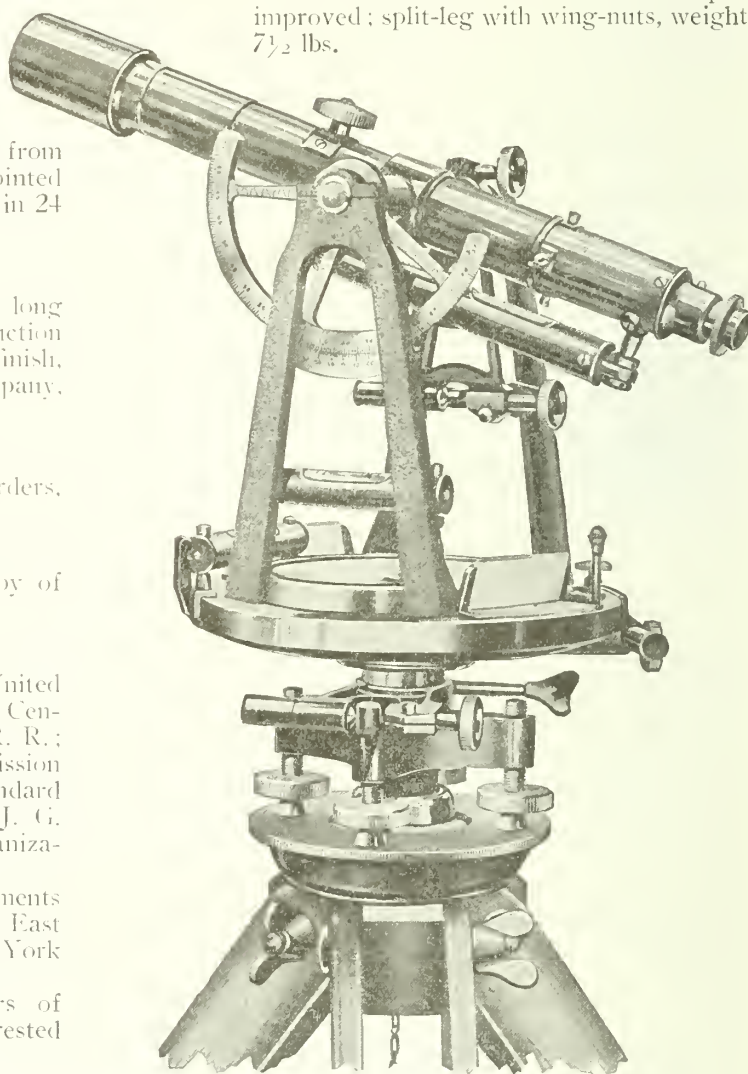
Names and addresses of experienced users of "Buff" instruments in the vicinity of any interested inquirer will be furnished on application.

### 6¼-inch Buff "Precise" Transit No. 1B.

Graduation, 6¼-in. diameter, with two opposite double reading verniers to minutes, placed at either 30° or 90° to line of sight. Two rows of opposite inclined figures 0-360. Graduations silvered and covered by pure crystal plate glass.

Telescope, erecting or inverting, is balanced and reverses at either end; 12 ins. long, 1¼-in. aperture, with power of 26.5 diameter improved eyepiece, unsurpassed large clear field. Center point is provided on top of telescope to permit of accurate centering from above. Adjustment for vertical plane, and line of collimation correct for all distances. Sensitive level bubble, 6 ins. long, with clamp and tangent to telescope. Improved

lower and upper spring tangent clamps. Shifting center with ¾-in. adjustment. Spirit levels truly ground by special machine, rated and sensitive. Standards are cloth finished. Long taper centers with broad flanges and of hardest bell-metal and phosphor bronze. Compass needle is 4½ ins. long and of accepted form. Compass graduation is silvered and figured with a single row 0-90 on each side of N. and S. Tripod improved; split-leg with wing-nuts, weight 7½ lbs.



6¼-INCH BUFF "PRECISE" TRANSIT NO. 1B

Patented Nov. 6, 1900; Nov. 13, 1900; Feb. 3, 1903

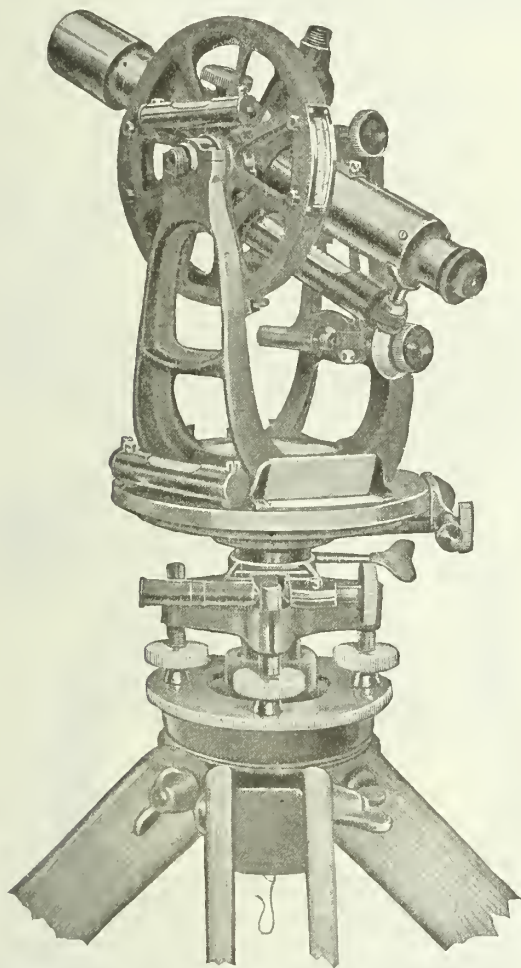
Price as shown in illustration..... \$225.00  
No. 1 Plain Railroad Transit (without bubble or clamp to telescope)..... 180.00

### DATA, FOUR REGULAR SIZES OF "BUFF" TRANSITS

	Size No. 1	Size No. 2	Size No. 3	Size No. 4
Weight.....	13½ lbs.	10 lbs.	7 lbs.	5 lbs.
Diameter of graduation.....	6¼ ins.	5½ ins.	4½ ins.	4 ins.
Length of needle.....	4½ ins.	3¾ ins.	3¼ ins.	2½ ins.
Power erecting telescope.....	26.5 diam.	22.5 diam.	18 diam.	17 diam.
Power inverting telescope.....	29 diam.	25 diam.	21 diam.	20 diam.
Length of telescope.....	12 ins.	10¾ ins.	8 ins.	8 ins.
Length level bubble.....	6 ins.	5½ ins.	4 ins.	4 ins.
Diameter telescope aperture.....	1¼ ins.	1¼ ins.	1½ ins.	1½ ins.

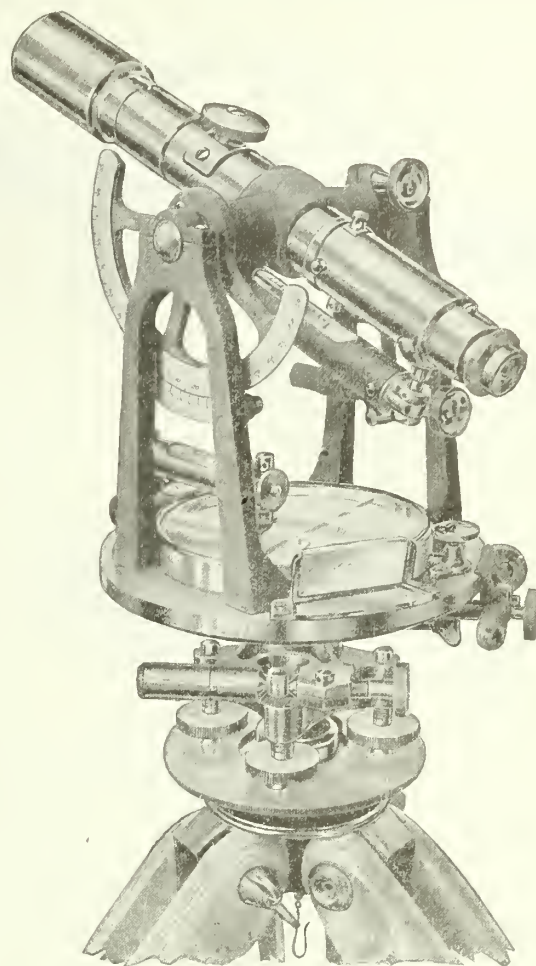
The mahogany instrument box is provided with strap, brass lock and hooks, and contains plumb-bob, pocket magnifier, sunshade, wrench, screwdriver, adjusting pins, etc.

No. 1B Transit 13½ lbs.



5-INCH PENNSYLVANIA MINE TRANSIT NO. 2H

Used throughout Pennsylvania and Ohio and also the West on large coal and mining properties. Universal top and side telescope, detachable.  
Price ..... \$234.00



NO. 31. ROCKY MOUNTAIN FAVORITE

Horizontal circle 4½-in. diameter at edge of graduation with double opposite verniers reading to minutes on silvered surface.  
Needle is 3¼ ins. long. Standards are cloth finished.  
Telescope is 8 ins. long with 1½-in. aperture of power of 18.  
Sensitive level bubble to telescope is 4 ins. long, and provided with clamp and tangent adjustment.  
Verniers may be either at 30° or 90° to line of sight.  
Vertical circle reads to minutes and is protected by an aluminum guard.  
Weight of instrument complete is 7 lbs., extension tripod 7 lbs., regular stiff-leg tripod 5 lbs.  
Instrument complete in mahogany case with plumb-bob and adjuster, pocket reading glass, screwdriver, wrenches and adjusting pins, etc.  
Price ..... \$175.00

### Engineer's 16-inch Dumpy Level.

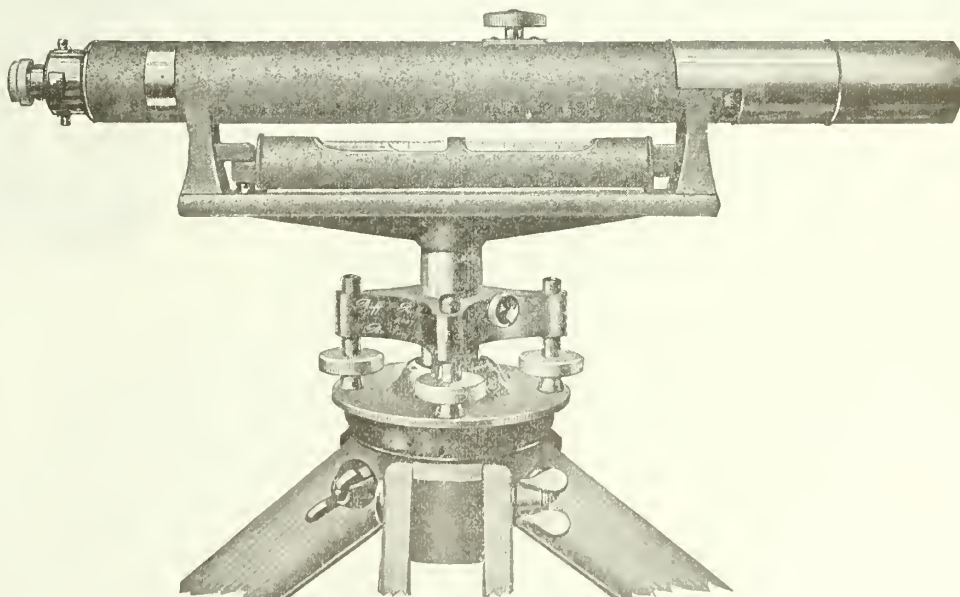
Focusing screw placed on top. Protection to object-slide. Improved form of telescope barrel casting, of phosphor bronze, insuring great stability.

Center and lower bars, of a single bell-metal casting, obtain utmost strength and permanency of adjustment.

Power, as above, 36 diameters. (Inverting eye-piece, as per cut, completes our most ideal lens system.)

Price, with tripod and mahogany case.....\$100.00

Weight of Level complete, 9½ lbs. Tripod, 7 lbs.



ENGINEERS' 16-INCH DUMPY LEVEL.